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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,068	04/12/2005	Daisuke Kanenari	AOK-0235	2536

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WASHINGTON, DC 20036

EXAMINER
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WU, IVES J

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/531,068

Applicant(s)

KANENARI, DAISUKE

Examiner

Ives Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/12/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102/103*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(1). **Claims 1 and 2** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tetsuji (JP-08269241A).

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Tetsuji (JP-08269241A) discloses a rubber composition comprising an organic peroxide crosslinking agent [0011], (I). A polybutadiene (BR) and/or a styrene/butadiene copolymer rubber (SBR), and (II). A nitrile copolymer comprising a polymer chain essentially consisting of an ethylenically unsaturated nitrile and a conjugated diene having conjugated diene unit content of 30 wt% or below and zinc salt of methacrylic acid from 10-100 parts by wt based on 100 parts by wt of nitrile copolymer. The ratio of (I)/(II) is from 10:90 to 90:10 (Abstract).

As to the physical properties of component (B) polar polymer having a solubility parameter (Sp value) of at least 17.6 ( $\text{Pa}^{1/2}$ ) and a weight average molecular weight of at least 100,000 in the **independent claim 1**, in view of substantially identical compositions of component (B) disclosed by Tetsuji and applicant, it is the examiner's position to believe that the polar polymer- nitrile copolymer of Tetsuji would inherently possess the solubility parameter (Sp value) of at least 17.6 ( $\text{Pa}^{1/2}$ ) and a weight average molecular weight of at least 100,000. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to a superior anti-blooming property in the peroxide-crosslinked rubber composition in the **independent claim 1**, in view of substantially identical compositions of components of peroxide-crosslinked rubber composition disclosed by Tetsuji and applicant, it is the examiner's position to believe that the rubber composition of Tetsuji would inherently possess a superior anti-blooming properties. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(2). **Claims 3-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuji (JP-08269241A) in view of Georget et al (US006251977B1) and Obrecht et al (US006579945B2).

As to the components A' and B' in the **dependent claim 3**, the disclosure of Tetsuji is incorporated herein by reference. The most subject matters of at least 40 parts by wt of polybutadiene rubber and polar polymer of instant claim 3 has been recited in applicant's claim 1 and 2, and has been discussed in the paragraph (1).

As to the component C of carbon black having nitrogen specific surface area of 70 m<sup>2</sup>/g or less to be 20 to 70 parts by wt in the **dependent claim 3**, Tetsuji **does not teach** the carbon black, surface areas in his rubber composition.

However, Georget et al **teach** the component of carbon black to be 10 to 100 parts by wt in the rubber composition (Col. 2, line 37-60).

Obrecht et al teach using the carbon black with BET surface areas of 20 –200 m<sup>2</sup>/g such as e.g.: SAF, ISAF, IISAF, HAF, FEF or GPF carbon blacks (Col. 4, line 32-38)

The advantage of using carbon black in the rubber composition is to reinforce the rubber as a filler component (Georget et al, Col. 1, line 22-23). It is well known in the art, with specific

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range of surface areas (Obrecht et al, Col. 4, line 32-38), the mechanical properties and abrasion resistance are superior<sup>1</sup>.

Therefore, it would have been obvious at time the invention was made to add carbon black of combined teaching of Georget et al and Obrecht et al in the rubber composition of Tetsuji in order to achieve the aforementioned advantages.

As to the physical properties of 50% modulus to be 3 – 10 Mpa and a  $\tan\delta$  at 100 °C to be not more than 0.15 in **dependent claim 4**, in view of substantially identical rubber compositions disclosed by combined teaching of Georget et al, Obrecht et al and Tetsuji, and by applicant, it is the examiner's position to believe that the rubber composition of combined teaching of Georget et al, Obrecht et al and Tetsuji would inherently possess the physical properties of 50% modulus to be 3 – 10 Mpa and a  $\tan\delta$  at 100 °C to be not more than 0.15. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to the limitation of **dependent claims 5 and 6**, Obrecht et al disclose the rubber mixture suitable in particular for tire component such as reinforced tire sidewalls for tires with emergency running properties ("inserts for run flat tires") (Col. 5, line 59-67)

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<sup>1</sup> Amino et al (US006642315B2) The nitrogen specific area of the carbon black is not limited, but the lower limit is preferably 5 m<sup>2</sup>/g, and upper limit is preferably 130 m<sup>2</sup>/g. If the nitrogen specific area is in this range, the mechanical properties and abrasion resistance are superior (Col. 9, line 44-51).

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu

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Date: October 13, 2005

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700